



2969

Department of Commerce and Labor
COAST AND GEODETIC SURVEY

O. H. Tittmann
Superintendent.

State: *Me.*

DESCRIPTIVE REPORT.

Hydrographic Sheet No. *2969*

LOCALITY:

*West Penobscot Bay
and Muscle Ridge
Channel*

1908

CHIEF OF PARTY:

N. H. Heck

C. & G. SURV. DIV.
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DEC 15 1908

Acc. No.

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*Hyd. sheet 2969
Descriptive Report
Wire Dray Party
Chief of party, N. H. Heck, Assistant.
West. Penobscot Bay
July 7 - Oct. 26, 1904*

The greater part of the seasons work was done on this sheet. Drags varying in length from 6000 to 750 feet were used as conditions warranted.

50 square miles were dragged a large part of which was very unfavorable for wire drag work owing to the rocky bottom and the large number of lobster pots, which caused much loss of time.

The principal shoals found have been already reported and published in the Weekly Notice to Mariners. Among the principal shoal areas examined were Perrys and Junken Ledges. The least depth on the former was charted correctly but the shoal was more extensive than charted. A depth of 19 feet was found on Junken ledge at a point where the drag parted when the shoal was examined last year. A 5 1/4 fathom shoal which was charted between Junken Ledge and the western shore was found to exist and to be charted correctly. An examination last year with a short drag failed to find this shoal as its position is slightly different from that showing on the chart. This indicates the superiority of the drag now in use.

The region lying west and southwest of White Island was found to contain many places where the depth was different from that charted, but no shoals were found that would interfere with the navigation by the class of vessels using this part of the bay.

Harrisane Sound was examined and found to be practically as charted except that near the northern end of Green Island the width of the channel is less than charted.

On the western side of the Bay the 15 foot shoal lying east of Marblehead Id. which has already been reported constitutes a danger to Navigation and it should be noted that it lies very little more than 1/2 mile from the line of the naval trial course as marked by the buoys.

A shoal with a least depth of 16 feet was found near Halibut Rock 2500 meters 219° 30° true from Two Bush Light. It should be noted that is a dangerous locality for all classes of vessels as the ledges are unmarked and at high tide give no indication of their existence,

The channel between Sheep Island and Fishermans Id. may be considered a safe for vessels of drafts up to 18 feet. There is more water in the greater part of the channel between Andrews and Crescent Ids. but it is very narrow in its western part where it joins the Muscle Ridge Channel.

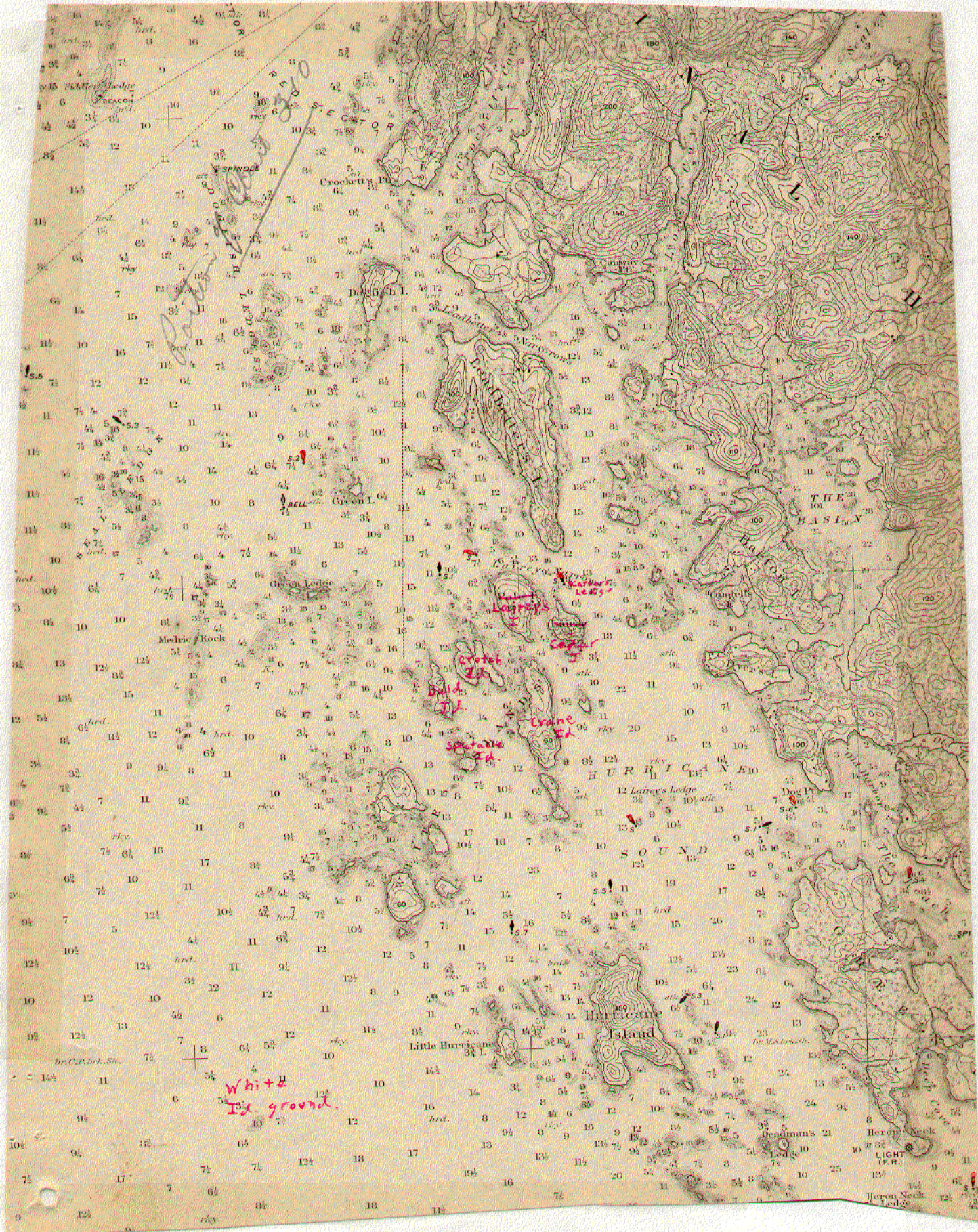
Attention is called to the fact that a Beacon is shown on the chart on the western side of Muscle Ridge Channel west of Emery Island. This is a spindle and should be so shown. *{Mr. Wyllie states that the P. H. Spear calls all day marks "Beacons" J.F.F. 7/10/19}*

A section of chart is attached showing the names of several islands on the Eastern Side of West Penobscot Bay which are either unnamed on the chart or where the local usage is different. The information is furnished by Mr. L. C. Glidden, Deputy Collector of Customs at Vinalhaven, Me. who has been a permanent resident of Vinalhaven, Me.

He states that the Name "White Islands" applies only to the western group of Islands bearing that name on the chart. "Pole Island" has never been known locally by that name but is called Lairey's Id. "Laireys Id" as charted has not had a generally recognized local name. At present it is known as Cedar Island a name which replaces that of Southdown by which it was at one time known by some people. The names Crotch, Crane, Bald and Spectacle Islands are the names in general local usage for the islands indicated which did not have individual names on the chart. ~~These~~ These statements are confirmed by others local men.

In all the work of this season there is practically no discrepancy between the drag depths stated in the records and the depth actually obtained at all parts of the drag. An allowance of one half foot below the actual tested depth was allowed as this range of depth may occur, owing to lobster pots hanging on the

drag



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DESCRIPTION OF PLANE TABLE STATIONS

STATION	LATITUDE	Seconds in meters	LONGITUDE	Seconds in meters	DESCRIPTION
CLUB	44 03	871	68 51	791	Cupola on new club house.
BEACH	44 02	1362	68 52	304	Hydrographic signal.
LUMP	44 01	809	68 53	62	Small boulder on ledge.
PIPE	44 01	1755	68 53	180	Tall pipe on the South end of Hurricane Id.
BOLD	44 03	555	68 53	1123	Hydrographic signal on end of White Id.
LED	44 04	278	68 53	1053	Pole on South end of Ledbetter Id.
BLUE	44 04	1738	68 52	1209	Tall derriek

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LEAHY'S COLLECTION
DEC 15 1908

DESCRIPTIVE REPORT

For sheet No. 9 Muscle Ridge Channel & W. Penobscot Bay.

2969

DESCRIPTIVE REPORT

To accompany sheet No. 9 Muscle Ridge Channel. & W. Penobscot Bay.

The work on this sheet was the thorough examination, ~~and~~ with Wire Drag, of Muscle Ridge Channel and such other portions of the bay where the charts show soundings of from 6 to 10 fathoms. A considerable area off Monroes Island was also covered to find, if it existed, a shoal reported by fishermen. While engaged in this work it may be here noted that a shoal having a depth at M. L. W. of 11 feet was found lying from N.E. end of Sheep Island a distance of ²¹⁰ 200 meters, bearing 112° (ESE).

The intention was to drag to a depth of 36 feet in all places where the chart indicated that or greater depths, and to drag the area adjoining Muscle Ridge Channel so as to accurately determine the 3, 4, 5, and 6 fathom curves. In all cases of important shoals, the least depth of water found by sounding was checked by dragging over them with a margin of two feet.

care and
Especially precaution was used to cover all the area as possible to cover although much hindrance was caused by lobster pots being placed in the way of the drag.

several
Many uncharted shoals were found and in many cases previously known shoals were found to have less than the charted depth.

Muscle Ridge Channel has been proved to have a safe depth of 36 feet, if the charted channel is carefully followed, with the exception of the entrance to Owl's Head Bay where the channel is very narrow. Here the safe depth is not over 25 feet, the best water being on the eastern side of the channel and having a depth of 30 feet. In this connection the rock reported in "Notice to Mariners", 1908, paragraph 2795 should be noted, as also the location of the wharf at Crescent Beach. This rock lies in the direct approach to the wharf from the channel and has caused the grounding of many

(2)

pleasure crafts. South ~~in~~ of Ash Island the safest channel lies between Ash Island Ledge and the Upper Gangway Ledge.

The most important shoals found during the seasons work are are as follows:

✓ 1. A shoal having a depth of 28 feet at M.L.W. lies between Emory Ledge and Ash Island beacon, distant from the latter 1150 meters, bearing 1050

✓ 65° (NE X E 3/4 E): — *(N E. 1/4 E. 5/8 E. easterly)*

✓ 2. A shoal having a depth of 29 feet at M.L.W. lies off the Upper Gangway ledge, distant from the shoalest part of the ^{so} ledges 450 meters, bearing 175° (S 1/2 E).

✓ 3. A shoal having a depth at M.L.W. of 28 feet lies between Otter Island beacon and Otter Island Ledge Spindle, 270 meters from the beacon, bearing 297° (NW X W 3/4 W).

✓ It should be here noted that the maximum depth of the channel westward of ~~the~~ Otter Island Ledge spindle is ~~2~~ 29 feet. It should be further noticed in respect to this part of the channel that in the area north of Garden Island Ledge a depth of 9 feet was found on Wiggin's Rock. In this immediate vicinity several depths of ~~tw~~ 12 feet was found making a channel west of this ledge of more than 12 feet impracticable.

✓ 4. A shoal having a depth at M.L.W. of 27 feet lies in mid channel, distant from Garden Island spindle 1110 meters, bearing 197° (S X W 1/2 W).

✓ 5. Several uncharted shoals were found between Hurricane, Lower Gangway, and Yellow Ledges, but none of which affects the charted depth of the channel, except a 26 foot shoal lying from Yellow Ledge Spindle a distance of 530 meters, bearing 14° (N X E 1/4 E), and two shoals previously reported in "Notice to Mariners" 1908. Paragraphs 2856 and 2007. In this connection

(3)

it may be noted that the corrected depth of the former is 16 feet instead of 17 feet as first reported.

Grafton Island Channel, eastern channel, was found to be clear with the exception of a 10 foot shoal reported in "Notice to Mariners", 1908, paragraph 2511.

✓ On Junken Ledge a depth of 22 feet at M.L.W. was found lying 150 meters from the $4\frac{1}{2}$ fathom sounding shown on the chart/ Bearing 17° (N X $E\frac{1}{2}$ E). Another shoal of 22 feet lies 270 meters south of the above mentioned shoal.

32 ✓ A $5\frac{1}{4}$ fathom sounding shown on chart 312 lying from Two Bush L.H. a distance of $2\frac{1}{2}$ nautical miles, bearing 84° ($E\frac{1}{2}$ N); was proved to not exist as the area ^{over and} surrounding it was dragged to a depth of 36 feet or more.

Work was begun on the eastern side of the Bay and while several shoals were found only one important one may be mentioned. This is the one previously reported in "Notice to Mariners" 1908, paragraph 2621. Let it here be ~~xxx~~ noted that the finally reduced depth is 15 feet at M.L.W. instead of 14 feet as originally reported.

It should also be noted in connection with this sheet that the town of Carver's Harbor, chart 310, on the southern end of Vinal Haven Island is now called Vinalhaven, (one word), The name Carver's Harbor is no longer used for the town. L

All distances are scaled off from the sheet and all bearings are magnetic unless otherwise stated.

The table to be used for the reduction for all of the work from "A" to "P" day inclusive and also of B' day is that for the 1000 foot drag page 560, appendix of the report for 1907. The remainder of the work is to be reduced by the standard table accompanying this report.

The tide reductions for this sheet are from Rockland Harbor, ..

Dix Island; and Vinal Haven Tide Gauges

North Haven

The reductions are from Rockland Harbor for all work in Owl's Head Bay, and all other work up to, (not including), July 16th when a . . . Tide Observer was started at Dix Island. After July 16th all work in Muscle Ridge Channel and in West Penobscot Bay , except for A' & B' days, Aug 25 & 26th , is reduced from Dix Island tide gauge. A' & B' days (Aug. 25 & 26th) and all work to the east of longitude 68° 59' is reduced from Carver's Harbor Tide Gauge.

In order to control the work over such a large area there were simultaneous observations at Rockland Harbor, Dix Island, North Haven, and Carver's Harbor Tide Gauges. North Haven Tide Gauge was not used in the reductions for any of this sheet, but it is the only Tide Gauge that was established from bench marks and may be used in the comparison of tides at the other gauges.

Rockland Harbor:

Plane of reference corresponds to a reading of 2.9 feet on staff.

Dix Island:

Plane of ref. corresponds to a reading of 2.9 feet on staff.

Carver's Harbor:

Plane of ref. corresponds to a reading of 6.5 feet on staff.

For lowest tide observed	} Rockland Harbor Dix Island Carver's Harbor	{ See records at office.
For highest tide observed		

MUSCLE RIDGE CHANNEL AND WEST PENOBSCOT BAY

HYDROGRAPHIC SHEET

NO. 9

2969

PLANE TABLE POSITIONS

OBJECT	LATITUDE	D.M. METERS	Longitude LONGITUDE	D.P. METERS	REMARKS
Chim	44° 04'	1196	69° 03'	654	prom. chim. ho. near large barn, S. end Owl's Head Village
Bare	44° 02'	1408	69° 04'	1040	prom. chim. highest white ho. Ash Point
Ash	44° 02'	768	69° 04'	16	Ash Island Bn.
Fish	44° 02'	1024	69° 02'	412	Hyd. signal, Fisherman's I.
Ott	44° 01'	666	69° 04'	587	Otter Id. Bn.
Stack	44° 00'	1606	69° 03'	1037	Tall stack, High Id.
Barn	43° 59'	1774	69° 06'	891	Cupola on barn, Sprucehead I.
Cup	43° 59'	1717	69° 06'	860	Cupola on cottage "
Ric.	43° 59'	665	69° 05'	804	Hyd. signal, Hurricane Id.
Flag	43° 59'	539	69° 04'	1259	Fish weir flg. stg. Flag Id
Yell	43° 58'	1556	69° 06'	1176	Yellow Ledge Spindle

Drag Depths for 480 ft. Drag. (Two launches)

Pull in pounds

2969

Drag Depth	110	120	130	140	150	160	170	180	190	200	210	220	Drag Depth
47				AD									47
46	BD					AD							46
45		BD					AD						45
44			BD					AD					44
43					BD				AD				43
42	CD					BD				AD			42
41		CD						BD				AD	41
40			CD						BD				40
39	AE				CD						BD		39
38		AE				CD						BD	38
37			AE					CD					37
36					AE					CD			36
35	BE						AE					CD	35
34		BE							AE				34
33				BE							AE		33
32	CE					BE						AE	32
31		CE						BE					31
30			CE								BE		30
29					CE								29
28								CE					28
27		AF										CE	27
26				AF									26
25						AF							25
24	BF											AF	24
23			BF										23
22					BF								22
21									BF				21
20	CF											BF	20
19			CF										19
18								CF					18
17											CF		17

Large Buoys 24x52"

Large Weights 140 lbs

Small Buoys 12x24"

Small Weights 15 lbs

Towline 90 ft

Length of Uprights

AD = 57-51 ft.

BD = 53-47 "

CD = 49-43 "

AE = 44-40 "

BE = 40-36 "

CE = 36-32 "

AF = 32-28 "

BF = 28-24 "

CF = 24-20 "



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Department of Commerce and Labor
COAST AND GEODETIC SURVEY

Superintendent.

State: _____

DESCRIPTIVE REPORT.

H. C. / Sheet No. 2969^a

LOCALITY:

190

CHIEF OF PARTY:

ADDRESS THE DIRECTOR
U. S. COAST AND GEODETIC SURVEY

AND REFER TO NO. 9-MEM

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
WASHINGTON

SECTION OF FIELD RECORDS.

REPORT ON HYDROGRAPHIC SHEET No. 2969² (additional work)

Surveyed in 1922.

Chief of Party: H. Rackliff.

Protracted and soundings plotted by
H. E. MacEwen.

Surveyed by H. Rackliff.

Verified and inked by R. L. Johnston.

1. The records and plan and character of the work conform to the requirements of the General Instructions except that the limits and depths of the dredged area appear to have been taken from reports rather than surveyed.
2. No specific instructions were given for this survey.
3. The work was plotted in the office from the data submitted (a letter and corrected chart filed as letter No. 43 of 1922 in Chart Division files, and one sounding volume.)
4. This survey indicates the probability of additional uncharted dangers and dragging should be done facing the waterfront if the commercial importance of the locality warrants it. As the dredging around Tillson's wharf does not appear to have been done by the U. S. Engineers this area also should be resurveyed.
5. The character and scope of the surveying is fair, the unfavorable weather conditions being sufficient to prevent a more complete survey being made.
6. Reviewed by E. P. Ellis, May, 1922.

2969a

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DESCRIPTIVE REPORT

To accompany sheet "C" Rockland Harbor.

The work on this sheet consisted in the examination with Wire Drag of such portions of Rockland Harbor as were reported dangerous and considered most suspicious from characteristic soundings on the chart.

This examination resulted in the discovery of several uncharted rocks and pinnacles of which those considered most dangerous and necessary of special attention are as follows:

1 Three rocks covered with 12, 8-1/2, and 12 feet of water respectively, which have been previously reported, paragraph 3006 Weekly Notice to Mariners No. 43, 1908.

2 A rock covered with a least depth of 26 feet and surrounded by 30 feet of water.

Rockland Breakwater Lighthouse, 806 meters distant, bearing $48^{\circ} 30'$ (NE 1/4 E.) magnetic. *822.75 E.*

Flagstaff on Samoset Hotel $18^{\circ} 30'$ (N by E 1/2 E) mag.

3 The sounding on this shoal was obtained on what seemed to be a post or pile used as a mooring and was covered with a depth of 21 feet of water. Another sounding with a least depth of 25 feet was obtained on a pinnacle rock in about the same position and surrounded by 31 feet of water.

Rockland Breakwater L.H., 724 meters distant, bearing $136^{\circ} 00'$ (SE) magnetic.

Samoset Hotel Flagstaff $19^{\circ} 30'$ (N by E 3/4 E) magnetic.

While this shoal does not interfere with steamships entering or leaving the harbor, it is very dangerous to vessels seeking anchorage near the breakwater and would probably be a danger to sailing vessels beating in or out of the harbor.

All distances are scaled off from the *sheet* and the bearings are magnetic.

The western shore line on this sheet was taken from the

bromide and does not correspond with the most recent charts.

For the information of the draughtsman a table of reductions for the pulls and corresponding drag depths will be transmitted with sheet #9, Muscle Ridge Channel, and it may also be used with this sheet.

This sheet is sent as a supplement to sheet # 9, Muscle Ridge Channel and is not the standard size, 31 x 53 inches, caused by making it before the new Field Instructions, giving that information, came out.

2969^a

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All soundings were taken in fathoms and feet and are given in feet on the sheet. All reductions are from Rockland Harbor T.G.

Plane of reference ,mean low water, reading on gauge 2.9 ft.

Lowest tide observed-- --See records in office.

Highest tide observed -----see records in office.

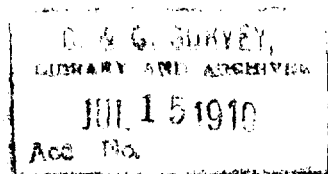
Hyd Sheet No 2969

Mar. 9, 1910.

The 31 sounding, about 2 miles west of "White Sho.", was found in an area which had been dragged to 41 feet and the 16 ft shoal, about 1 mile northeast of "Two Bush Id. L.H.", in an area which had been dragged to 30 ft. The chief of party should have made a note in the records explaining these discrepancies.

The soundings and the position of each sounding has been verified.

H. L. Simons



Hyd Sheet No 2969 + 2969^a Jan 5 1908

Each sounding and its position was
verified and found correct.

The records were well kept.

H L Simons

^{2 1/2 miles E 1/2 N of Two Bush Lt.}

The 5 1/4 fathom spot, was dragged to 30 & 31 ft not to
36 ft as stated in Paragraph #5 of the Des. Report.


STATISTICS SHEET #9
Muscle Ridge Channel

2969
C. & G. SURVEY,
BRAN AND ACHIN, S.
Dec 15 1908
Acc. No.

Date 1908	Letter	Vol.	ANGLES			Sound-ings	Miles	Remarks
			Launch#1	Launch#2	Launch#3			
July 6	A	1	48	54	0	0	2.5	Soundings are found in record for launch #1
" 7	B	1	64	46		3	2.25	
" 8	C	1	88	76		2	4.5	
" 10	D	1	134	102		1	6.0	
" 11	E	1	76	60		3	3.0	
" 13	F	1	124	108		3	5.0	
" 14	G	2	68	54		4	2.0	
" 16	H	2	106	68		3	5.0	
" 17	J	2	80	64		3	4.25	
" 20	K	2	88	66		5	3.5	
" 21	L	2	92	76		2	5.0	
" 24	M	3	28	18		0	1.25	
" 25	N	3	62	40		5	2.5	
" 27	O	3	104	86		2	5.0	
" 28	P	3	62	48		2	3.5	
" 29	Q	3	86	76		1	4.0	
" 30	R	3 & 4	186	140		1	9.0	
" 31	S	4	102	82		1	5.0	
Aug. 1	T	4	76	58		2	3.5	
" 3	U	4	56	48		2	2.5	
" 4	V	4	64	50		2	2.5	
" 8	W	4	2			1	0	
" 10	X	4 & 5	254	190		0	12.0	
" 14	Y	5	4			0	0	
" 24	Z	5	98		78	2	3.0	
" 25	A'	5	28		26	0	1.25	
" 26	B'	5	86	22	46	3	3.0	
Carried forward			2266	1632	150	53	101.0	

Statistics for sheet #9 continued DEC 15 1908

Acc. No.

Date 1908	Letter	Vol.	ANGLES			Sound-ings	Miles	Remarks
			Launch#1	Launch#2	Launch#3			
Brought forward			2266	1632	150	53	101.0	
Aug. 28	C'	5	50		36	5	1.75	
" 29	D'	6	138	2	116	2	5.0	
" 31	E'	6	202	38	122	2	7.5	
Sept. 1	F'	6	150	64	56	5	5.0	
" 2	G'	7	76	30	34	2	2.75	
" 3	H'	7	158	78	56	4	5.5	
" 4	J'	7	68	14	30	6	2.0	
" 5	K'	7	44		34	2	1.5	
" 8	L'	7	104		98	2	3.75	
" 10	M'	8	98		116	1	4.0	
" 11	N'	8	34		26	3	1.25	
" 16	O'	8	70		54	2	3.0	
" 30	P'	8	60		54	2	2.25	
Oct. 1	Q'	8	88		64	5	3.5	
" 5	R'	8	130		96	2	5.0	
" 6	S'	9	82		70	3	3.0	
" 14	T'	9	72		64	4	2.25	
" 15	U'	9	74		86	4	3.0	
" 16	V'	9	74		84	2	0.75	
" 17	W'	9	28		84	2	0.75	
" 23	X'	9	36		28	0	1.5	
" 28	Y'	10	106		90	2	3.5	
	Totals		4134	1858	1564	113 122	168.75	

4228

1648

Area covered in square miles = 11.0

DEC 15 1908

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Number of square miles,- 0.7

ROCKLAND HARBOR
Hydrographic Sheet C.

U. S. G. SURVEY
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DEC 15 1908

Acc. No.

Object	Latitude	D.M. Meters	Longitude	D.P. Meters	Remarks
RED	44 05	913.0	69 04	221.2	Highest part of small red cottage on south shore of harbor.

WIRE DRAG

WEST PENOBSCOT BAY

C. & G. SURVEY,
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DEC 8 - 1909

Acc No.

Drag 2 -- Katherine, Guiding Launch: Helen Margaret, End Launch.

Date 1909	Letter	Vol.	Angles	Sdgs.	Miles	Length Drag
July, 14	e	1	132	0	7.0	5600 ft.
15	f	1	166	0	6.0	2400 ft.
19	g	1	62	0	2.5	3600 ft.
20	h	1	144	2	3.0	800 ft.
21	j	1	156	0	3.75	3600 and 2750 ft.
22	k	1	50	0	1.25	2400 ft.
23	l	1	116	2	5.0	1200 ft.
26	m	2	95	1	2.5	3600 and 800 ft.
27	n	2	79	0	2.25	2400 ft.
28	o	2	257	4	4.0	1200 ft.
29	p	2	91	0	6.5	6000 ft.
30	q	2	55	0	2.25	2400 ft.
31	r	2	189	1	2.75	1200 ft.
Aug. 2	s	2	86	0	4.5	3600 ft.
3	t	3	136	1	4.0	" "
4	u	3	126	0	2.0	1200 ft.
6	v	3	180	1	2.75	" "
9	w	3	170	2	3.50	3600; 1200; 3600 ft.
10	x	3	60	3	0.75	1200 ft.
12	y	3	30	0	---	" "
13	z	3	141	0	3.0	6000 ft.
14	a'	4	3	0	---	" "
16	b'	4	183	0	6.25	6000 and 2000 ft.
17	c'	4	12	1	---	2000 ft.
19	d'	4	324	1	7.0	1200 and 2000 ft.
20	e'	4	270	4	4.75	1200 ft.
21	f'	4 and 5	234	0	3.5	" "
24	g'	5	72	0	---	2000 ft.
25	h'	5	396	3	7.25	1200 ft.
31	j'	5	144	2	3.0	" "
Sept. 20	l'	6	138	0	4.25	6000 and 900 ft.
21	m'	6	180	0	4.00	2000 ft.
22	n'	6	249	0	6.25	4000 ft.
25	o'	6	36	0	0.50	2000 ft.
Totals carried forward			4762	28	116.0	

2
Drag 2

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DEC 3 1909
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Totals brought forward				4762	28	116.0
Date 1909	Letter	Vol.	Angles	Sdgs.	Miles	Length Drag
Oct. 1	p'	6	135	0	9.5	6000 ft.
4	q'	6 and 7	206	1	5.5	6000 and 2000 ft
5	r'	7	246	0	4.75	2000 ft.
6	s'	7	48	0	1.00	1000 ft.
7	t'	7	360	1	4.5	1200 and 1400 ft
8	u'	7	165	0	7.5	6000 and 2000 ft
9	v'	8	222	2	4.0	2000 ft.
13	w'	8	222	0	3.5	1200 and 2000 ft
18	x'	8	264	3	4.2	1200 ft.
26	y'	8	84	0	1.0	2000 ft.
Totals for Sheet 2969				6714	35	161.5
Drag 2						

Angles 6714
Sdgs. 35
Miles 161.5
Area

WIRE DRAG PARTY

WEST PENOBSCOT BAY

C. & G. SURVEY,
LIBRARY AND ARCHIVES
DEC 8 - 1909
Acc No.

Drag 1 -- FRANCIS EATON, Guiding Launch: ADELAIDE, End Launch.

Date 1909	Letter	Vol.	Angles	Sdgs.	Miles	Length Drag
July, 7	a	1	312	0	6.6	480 ft.
8	b	1	72	0	2.2	800 ft.
9	c	1	228	0	4.0	800 ft.
10	d	1	18	0	0.1	800 ft.
14	e	1	78	0	7.0	5600 ft.
15	f	1	95	2	6.0	2400 ft.
17	g	1	39	1	2.5	3600 ft.
21	j	1 and 2	72	0	3.75	3600 and 2750 ft.
22	k	2	45	0	1.25	2400 ft.
26	m	2	24	0	1.1	3600 ft.
27	n	2	72	2	2.25	2400 ft.
29	p	2	66	0	6.5	6000 ft.
30	q	2	36	0	2.25	2400 ft.
Aug. 2	s	2	81	3	2.75	3600 ft.
3	t	2	148	1	4.50	" "
4	u	2	186	0	4.50	1200 ft.
9	w	2	184	2	4.50	3600 and 1200 ft.
10	x	3	132	1	2.50	1200 ft.
12	y	3	186	0	4.50	1200 ft.
13	z	3	87	1	2.50	6000 ft.
14	a'	3	3	0	---	6000 ft.
16	b'	3	162	0	5.50	6000 and 1200 ft.
17	c'	3	84	0	2.40	2000 ft.
19	d'	3	330	1	7.50	1200 ft.
20	e'	3	126	3	3.50	1200 ft.
21	f'	4	174	2	3.50	1200 ft.
25	g'	4	318	2	7.50	750 ft.
Sept. 9	h'	4	228	4	4.00	1200 ft.
20	i'	4	52	0	2.50	6000 and 2000 ft.
22	n'	4	68	0	3.75	4000 ft.
25	o'	4	132	2	2.50	2000 ft.
Totals carried for. 3841				27	113.3	

Drag 1

C. & G. SURVEY,
LIBRARY AND ARCHIVES
DEC 8 1909
Acc No.
Length Drag

Brought forward-Totals			3841	27	113.3
Date 1909	Letter	Vol.	Angles	Sigs.	Miles
Oct. 1	p'	4 and 5	104	0	9.50
4	q'	5	214	0	6.50
7	t'	5	162	0	2.50
8	u'	5	194	0	9.50
14	x'	5	90	0	2.25
16	y'	6	156	1	3.50
18	z'	6	192	3	3.00
19	a"	48	42	1	0.50
21	b"	6	186	1	3.50
23	c"	6	66	1	1.00
26	d"	6	196	0	2.26
			=====	==	=====
			5443	34	157.3

6000 ft.
6000 and 2000 ft.
800 ft.
6000 and 2000 ft.
2000 ft.
" "
" "
" "
" "
" "
" "

Totals for Sheet 2969
Drag 1

Angles 5443 6714
Sigs. 34 35
Miles 157.3 161.5
Area 50 sq. miles

Total
12157
71
228.8
50

March 25, 1922.

Division of Hydrography and Topography:

Division of Charts:

Tide ^{al} ^{tions} reductions are approved in
1 volume of sounding records for

HYDROGRAPHIC SHEET 2969a

Locality: Off Tillsons Wharf, Rockland Harbor, Maine.

Chief of Party: H. V. Rackliff, Dragmaster, in 1922

Plane of reference is mean low water, reading

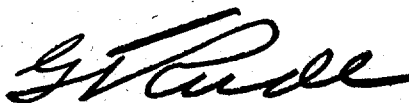
*8.7 ft. on tide staff at Portland, Maine (automatic gauge)

* Allowance made for difference in tide at place of soundings.

For reduction of soundings.

Condition of records satisfactory except as checked below:

1. Locality and sublocality of survey omitted.
2. Month and day of month omitted.
3. Time meridian not given at beginning of day's work.
4. Time (whether A.M. or P.M.) not given at beginning of day's work.
5. Soundings (whether in feet or fathoms) not clearly shown in record.
6. Leadline correction entered in wrong column.
7. Field reductions entered in "Office" column.
8. Location of tide gauge not given at beginning of each day's work.
9. Leadline corrections not clearly stated.
10. Kind of sounding tube used not stated.
11. Sounding tube No. entered in column of "Soundings" instead of "Remarks".
12. Legibility of record could be improved.
13. Remarks.



Chief, Division of Tides and Currents.